P250
P450

BAZOOKA®
Mobile Audio

Installation Manual

Dear customer,

Congratulations on your purchase of a Bazooka Pro20 brand mobile power amplifier! At Bazooka, we are fanatics about accurate music reproduction. Your selection of our products for your sound system indicates that quality sound is important to you too. At SAS, we take great pride in manufacturing revolutionary audio product, and through years of engineering expertise, hand craftsmanship and critical testing procedures, we have created the Bazooka Pro20 line of power amplifiers. We hope that you will take as much pride in owning and using one of these high quality audio products as we do in designing and manufacturing them.

When properly installed and operated, your Bazooka Pro20 amplifier will give you years of clean uninterrupted sound reproduction. Therefore, we urge you to take a few minutes to carefully read through this manual. It will explain all the features and operations of your Bazooka Pro20 amplifier and help to insure a trouble free installation.

Sound can be deceiving. Over time your hearing "comfort level " adapts to higher volumes of sound, what may have sounded "normal" can actually be too loud and harmful to your hearing. Guard against this by setting your equipment at a safe level BEFORE your hearing adapts.

To establish a "safe level ",

- Start with your volume control at a low setting.
- Slowly increase the volume until you can hear it comfortably, clearly, and without distortion.
- Once you have established a comfortable "sound level", make a note of this position and do not go above this setting.

Taking a minute to do this will help prevent your hearing from being damaged and allow you to enjoy listening to music throughout your lifetime.

Introduction

This mobile audio power amplifier delivers high power output with low distortion performance typical of most fine home audio amplifiers. To fully understand all features and proper applications of the amplifier, we recommend that before you begin your installation, you first read this manual thoroughly and follow the installation instructions carefully.

Installation

The quality of the installation will greatly affect the overall system performance and reliability. You may wish to contact an authorized Bazooka dealer to have your new amplifier professionally installed. The amplifier is generally mounted in the rear trunk area, but can be mounted in any convenient area such as beneath a seat. Please be sure to locate the amplifier where it will have reasonable air circulation and protection from any physical hazard or contact with moisture. When considering the mounting location you should minimize the length of the power supply wires and speaker leads. Minimizing both leads will provide higher audio output from the system. It is important to ensure that the heat sink is not against a panel or a surface that prevents air circulation.

Mark the location for the mounting screw holes by using the amplifier as a template. Drill #29 or 9/64" diameter holes at the marked locations and firmly fasten the amplifier in place with the mounting screws supplied in the accessory kit.(Refer to Fig.1)

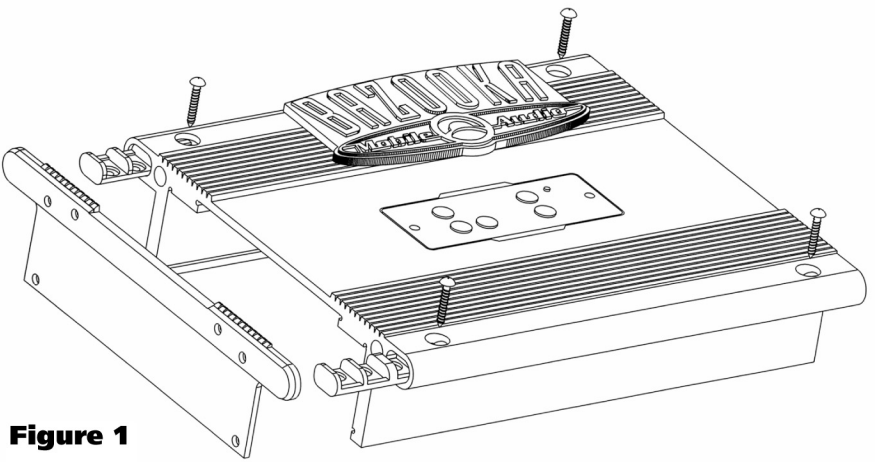


Figure 1

Caution
Before drilling or cutting any holes, investigate the layout of your automobile thoroughly: Take care when working near the gas tank, gas lines, hydraulic lines or any electrical wiring.

Warning
This power amplifier has protection features to prevent damage from misuse, faulty wiring conditions, excessive heat, shorted speakers or overloads. If the unit senses one of the above conditions, the protection indicator will light and the system will shut down. To diagnose the problem turn all levels down, all power off and check the installation for possible wiring mistakes or shorts. In the event the amplifier shuts down due to excessive heat, simply allow time for the unit to cool down at which time, the protection indicator will shut off and the amplifier will resume playing.

Power Supply Connections

The +12VDC and ground wires should be heavy gauge standard copper wire with heavy insulation. The wire gauge should be 10AWG for the P-250, 8AWG for the P-450 or larger. It is preferable to have longer speaker wires and shorter power supply wires to minimize power losses.

+12V Power

This wire is usually connected directly to the positive battery terminal. Ensure that the + power supply wire is fused via an assigned fuse in line with the + power supply wire. This connection must be completed using spade lug with insulating sleeve.

Ground

This connection must be completed using spade lug with insulating sleeve. This wire is the electrical ground and must be fastened securely to the vehicle chassis. The best method is to use a self-threading sheet metal screw since the threads cut into bare metal. Ensure that all paint coating or other insulation is remove from around the hole area and using self tapping screw, securely affix the bare wire ends to the vehicle chassis. Use as short a piece of cable as possible - use the same as gauge for the +12V.

Remote

Many radios or other music sources have an output terminal for connection of the remote turn-on of the power amplifier. If a radio doesn't have a remote turn-on feature, then you can use the antenna relay wire which activates the antenna motor. But you must take notice if the power antenna retracts when the tape player is operating. In this case, you can't use the antenna relay wire to operate the remote turn-on.

Caution
First make +12V wire connection then the ground connection and finally the remote connection. Furthermore the +12V wire must always be fused at the battery for protection against possible damage. If you need to replace the power fuse, replace it with a fuse of the same value. Using a fuse of a different type or rating may result in a serious hazard.

Input Signal Connections

Pro 20 amplifiers support both high level and low level inputs. High level input connects to the radios speaker outputs. Low level inputs connect to the radios RCA phono jack outputs.

Note: RCA Cable not supplied with unit

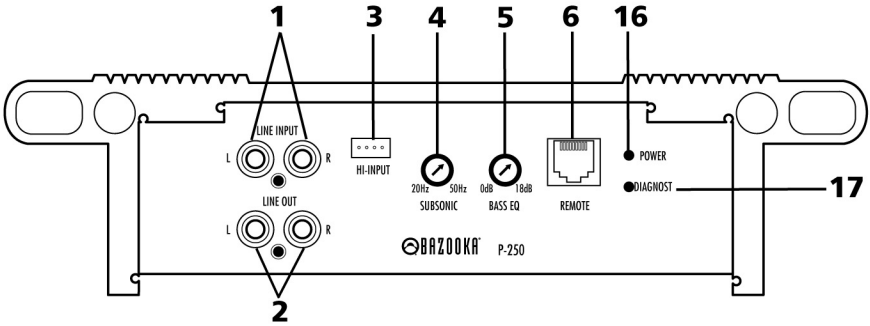
Caution
Do not use both low and high level inputs simultaneously!

Speaker Output Connections

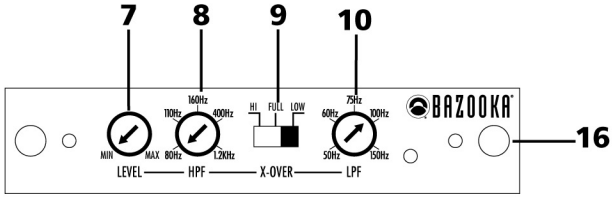
- The amplifier can be used in the STEREO and BRIDGED Mode.
- The speaker wires should be connected to the speaker terminal on amplifier.
- Notice that most speakers have a polarity marking such as "+" or a dot on speaker terminals and these marking denote the positive terminals of the speaker and are used as a guide to phase the speakers. Improper phasing causes a loss of bass response.
- When used in the BRIDGED Mode, the speaker wires should be connected to the output terminals of the amplifier as shown.
- When operating 4-speaker system, the impedance of the speaker is an important factor. Do not use less than a 4 ohm load in BRIDGED mode.
- Do not use speakers in parallel at less than a 2 ohm load per channel in STEREO mode.
- Too low of an impedance or load may cause permanent damage to your amplifier. It is best to check the load with an ohm meter to confirm whether or not the load being connected is the proper impedance.

Caution
Be careful not to connect speaker (-) to the ground or chassis.

P250


1
3
4
5
6
16
LINE INPUT
L
R
HI-INPUT
20Hz
50Hz
SUBSONIC
0dB
18dB
BASS EQ
REMOTE
POWER
DIAGNOST
17
LINE OUT
L
R
BAZOOKA
P-250
2

Remote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MAX
160Hz
1KHz
80Hz
400Hz
1.2KHz
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75Hz
60Hz
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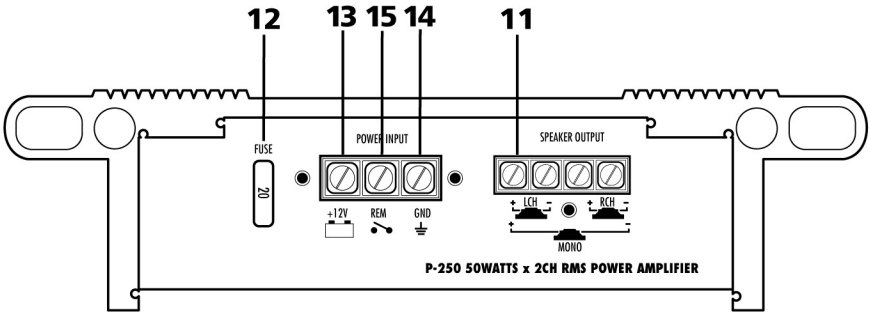
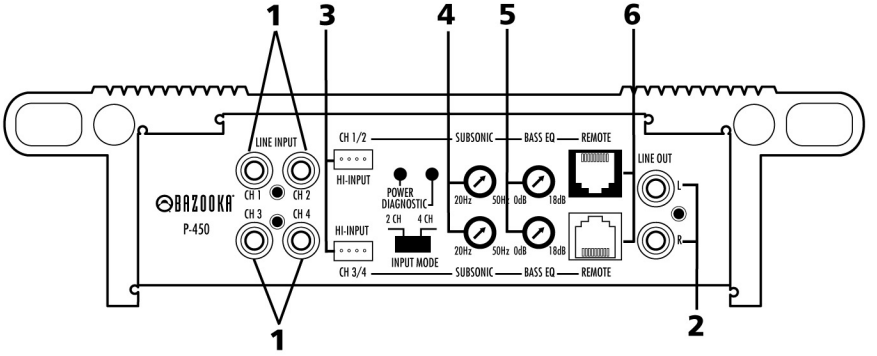
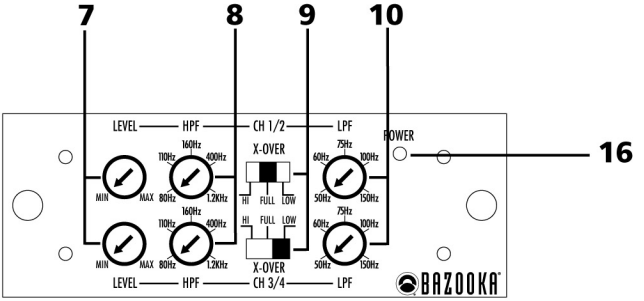
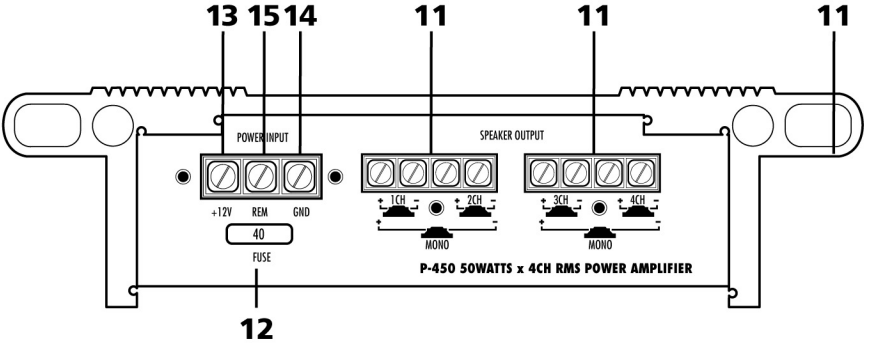
BAZOOKA
16
LEVEL
HPF
X-OVER
LPF


12
13
15
14
11
FUSE
20
POWER INPUT
+12V
REM
GND
SPEAKER OUTPUT
LCH
RCH
MONO
P-250 50WATTS x 2CH RMS POWER AMPLIFIER

P450


1
3
4
5
6
LINE INPUT
CH 1/2
SUBSONIC
BASS EQ
REMOTE
LINE OUT
HI-INPUT
POWER DIAGNOSTIC
BAZOOKA
P-450
CH 1
CH 2
CH 3
CH 4
2 CH
4 CH
INPUT MODE
20Hz
50Hz
0dB
18dB
L
R
CH 3/4
1
2


7
8
9
10
16
LEVEL
HPF
CH 1/2
LPF
POWER
X-OVER
MIN
MAX
80Hz
110Hz
140Hz
160Hz
400Hz
1.2KHz
HI
FULL
LOW
50Hz
60Hz
75Hz
100Hz
150Hz
CH 3/4
BAZOOKA


13
15
14
11
11
11
POWER INPUT
SPEAKER OUTPUT
+12V
REM
GND
40
FUSE
1CH
2CH
3CH
4CH
MONO
P-450 50WATTS x 4CH RMS POWER AMPLIFIER
12

FEATURES AND CONTROLS

1 **RCA Input Jacks**
The industry standard RCA jack providers an easy connection for signal level input. They are gold-plated to resist signal degradation caused by corrosion.

2. Line Out
The signal on the line outputs will be full range.

3. **High Level Input Connector**
Connect the radio's speaker output to the high level input connector. Do not use both low and high level input at the same time. Be sure not to confuse high level input with speaker outputs. Incorrect connections may damage the amplifier or your source (High level input is based on BTL ground signal)
High Input Connector
P-250: Black/White: R CH(+) Black: R CH(-) White/Black: L CH(+) White: L CH(-)
P-450: CH1+2 White/Black: CH1(+) White: CH1(-) Black/White: CH2(+) Black: CH2(-) CH3+4 White/Black: CH3(+) White: CH3(-) Black/White: CH4(+) Black: CH4(-)

4. **Subsonic**
The subsonic filters high pass frequency is fully adjustable from 20Hz to 50Hz, with a roll off of 12dB/Octave.

5. **Bass EQ Controls**
Adjustable bass boost selected frequency from 0dB to 18dB when putting cross over switch in the low pass position.

6. **Remote Jack**
This is used for the Pro20 amplifiers detachable control panel that operates the Pro20's input level, High Pass Variable Crossover, Low Pass Variable Crossover & the switch to select High Pass, Low Pass or Full Range operation. After detaching the remote from under the Pro20's Bazooka Logo Badge, it can be adjusted or installed anywhere in the vehicle using an extension cable plugged into a jack on the side of the amplifier.

7. **Input Level Control**
The input level control can be adjusted in order to match the output of most source unit. This makes it possible to match the Pro20 output up with virtually any source unit.

8. **High Pass Filter Control (HPF)**
Adjusts the crossover frequency of the High Pass filter, which is continuously variable from 80Hz to 1.2KHz.

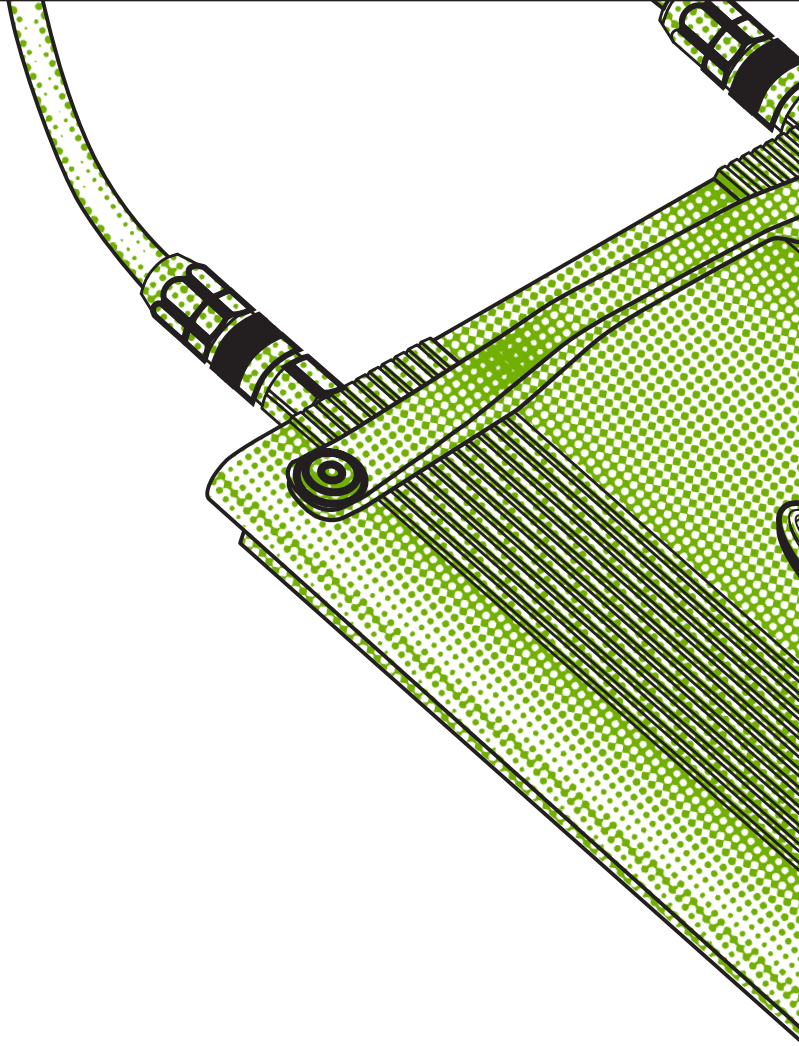
9. **Amplifier X-over switch**
   a) Low position: Sets the amplifier so it plays all frequencies below the frequency set on the Low Pass Filter which is continuously variable within the frequency range of 50Hz-150Hz.
   b) Flat position: Allows the amplifier to play the full range of frequencies from 20Hz - 20KHz.
   c) High position: Sets the amplifier so it plays all frequencies above the frequency set on the High Pass Filter which is continuously variable within the frequency range 80Hz - 1.2KHz.
10. **Low Pass Filter (LPF)**
    Adjust the crossover frequency of the Low Pass Filter, which is continuously variable from 50Hz to 150Hz.
11. **Speaker Terminal**
    It allows the connection of speakers to the amplifier.
12. **Fuse**
    It offers onboard fuse protection on the power wire that connects directly to the battery. P-250:20A; P-450:40A Note: For safety you still need to fuse (not included with the amplifier) the power wire at the battery with the same amperage fuse as the one located on the amplifier.
13. **Power connection**
    Connects +12VDC power wire from the battery.
14. **Ground connection**
    Connects ground wire form a suitable ground point on the chassis.
15. **Remote connection**
    Connects the control wire which allows the amplifier to be turned on and off by the source unit (radio).
16. **Power LED Indicator**
    It indicates when amplifier is on and no fault exists.
17. **Diagnostic LED Indicator**
    It indicates the fault operation of the amplifier. When a the fault condition like overload, excessive heat or short circuit arise, the Diagnostic circuit is engaged to protect both the speaker and amplifier against damage.

SPECIFICATIONS

Bazooka Amplifier Series	P-250	P-450
***Audio power output per Channe**	**both channels driven at 12.0VDCl**	**both channels driven at 12.0VDC**
-4 Ohms, THD 0.05%	55Wx2CH	55Wx4CH
-2 Ohms, THD 0.1%	88Wx2CH	88Wx4CH
-4 Ohms, THD 0.1%	170Wx1CH	168Wx2CH
*Signal to Noise Ratio	>95dB	>95dB
*Frequency Response	20Hz - 30KHz	20Hz - 30KHz
***Crossover: Separate**		
-High Pass	80Hz - 1.2KHz	80Hz - 1.2KHz
-Low Pass	50Hz - 150Hz	50Hz - 150Hz
-Subsonic	20Hz - 50Hz	20Hz - 50Hz
-Slope	12dB Octave	12dB Octave
-Bass EQ	0dB - 18dB	0dB - 18dB
***Input Sensitivity**		
-Low Input	200mV - 6.0V	200mV - 6.0V
-High Input	600mV - 9.0V	600mV - 9.0V
*Low level Input Impedance	22kOhms	22kOhms
*Damping Factor	>180 into 4 Ohms	>180 into 4 Ohms
*Channel Separation	>90dB	>90dB
*Fuse Rating	20 AMP	40 AMP
*Dimension (W x	10	10
H x	2.53	2.53
L inch)	11 inch	16 inch

*1.These specifications can be changed without notice
2.Please note that the features shown in this manual may vary from model to model.

If you have any questions contact the SAS Technical Support Department at:
Phone - 225 272-7135 • Fax 225-272-9844
In Canada: 604-988-2966
e-mail - tech@bazooka.com • Website - www.bazooka.com



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